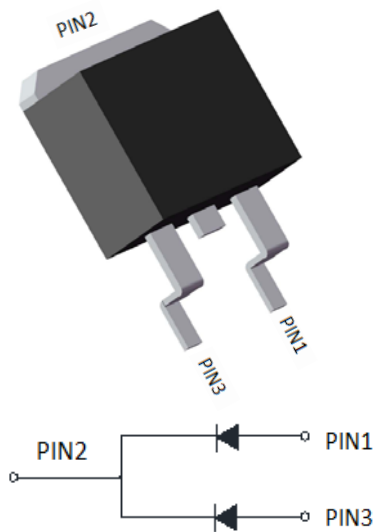




■ FEATURES

- Adopt FRED chip
- Low forward Voltage drop
- Fast reverse recovery time
- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability

■ TYPICAL APPLICATIONS

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

■ MECHANICAL DATA

- **Package:** TO-263
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

■ MAXIMUM RATINGS (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURB2040CT
Device marking code			MURB2040CT
Repetitive Peak Reverse Voltage	V _{RRM}	V	400
Average Rectified Output Current @60Hz sine wave, R-load, T _c (FIG.1)	I _o	A	20
Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _j =25°C	I _{FSM}	A	120
Current Squared Time @1ms≤t≤8.3ms T _j =25°C,	I ² t	A ² s	60
Storage Temperature	T _{stg}	°C	-55 ~ +175
Junction Temperature	T _j	°C	-55 ~ +175
Typical Junction capacitance @4V,1MHz	C _j	pF	50

■ THERMAL CHARACTERISTICS (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MURB2040CT
Thermal Resistance Between junction and case	R _{θJ-C}	°C/W	2.0
Thermal Resistance Between junction and Air	R _{θJ-A}	°C/W	50

■ PACKAGING INFORMATION

PREFERRED P/N	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MURB2040CT	Approximate 1.43	50	2000	8000	Tube
MURB2040CT	Approximate 1.43	1000	2000	10000	Reel

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	Min	Typ	Max
Instantaneous forward voltage drop per diode	V_{FM}	V	$I_{FM}=10.0\text{A}$ @ $T_J=25^{\circ}\text{C}$	-	1.15	1.30
			$I_{FM}=10.0\text{A}$ @ $T_J=150^{\circ}\text{C}$	-	0.9	1.0
DC reverse current at rated DC blocking voltage per diode	I_{RRM1}	μA	$V_{RM}=V_{RRM}$ $T_J=25^{\circ}\text{C}$	-	-	5
	I_{RRM2}		$V_{RM}=V_{RRM}$ $T_J=150^{\circ}\text{C}$	-	40	100
Reverse Recovery Time	T_{rr}	ns	$I_F=0.5\text{A}$ $I_{RM}=1\text{A}$ $I_{RR}=0.25\text{A}$ $T_J=25^{\circ}\text{C}$	-	25	35
			$T_J=25^{\circ}\text{C}$	-	33.5	-
			$T_J=125^{\circ}\text{C}$	-	54.8	-
Peak recovery current	I_{RRM}	A	$T_J=25^{\circ}\text{C}$	-	4.1	-
			$T_J=125^{\circ}\text{C}$	-	8.1	-
Reverse recovery charge	Q_{rr}	nC	$T_J=25^{\circ}\text{C}$	-	68.3	-
			$T_J=125^{\circ}\text{C}$	-	226.7	-

CHARACTERISTICS (TYPICAL)

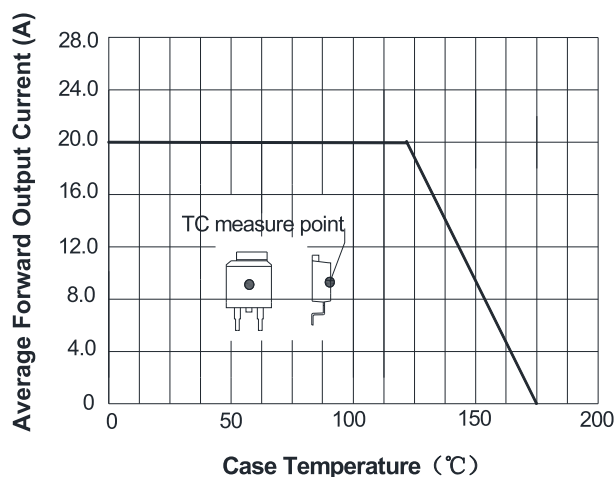
 FIG1: I_o - T_c Curve


FIG2: Surge Forward Current Capability

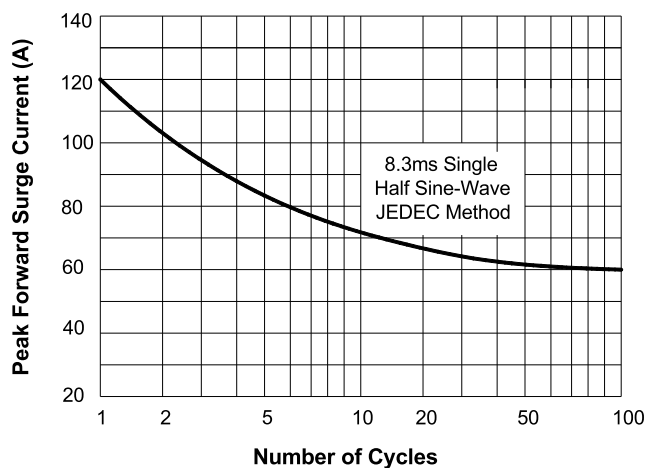


FIG3: Forward Voltage

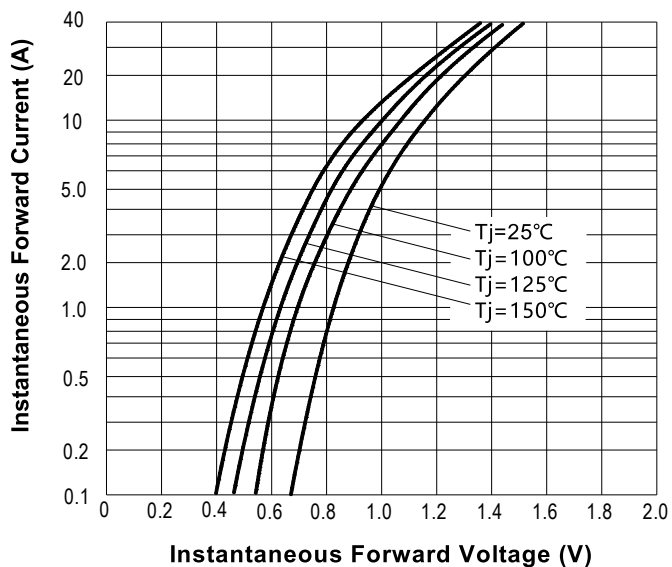


FIG.4: Instantaneous Reverse Characteristics

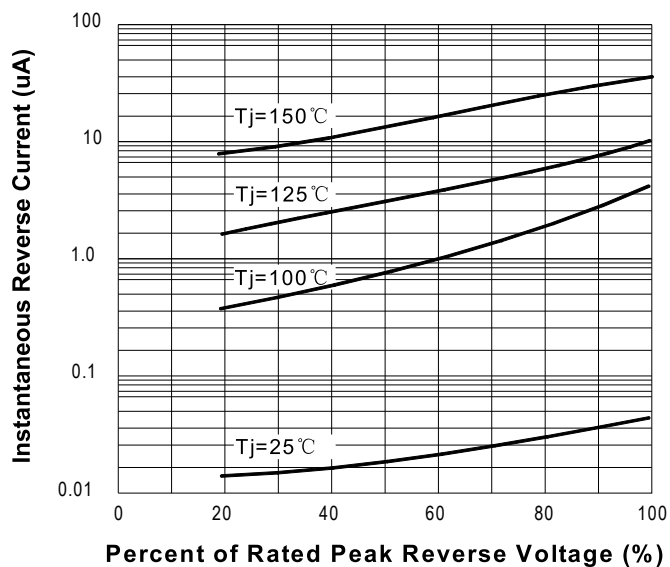
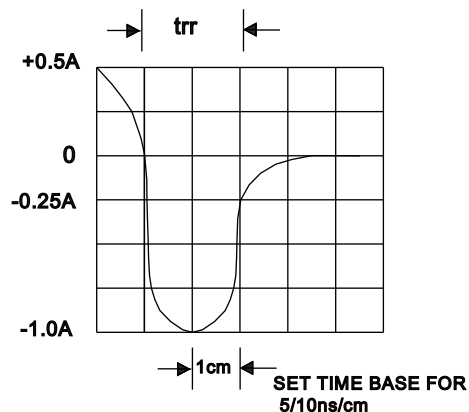
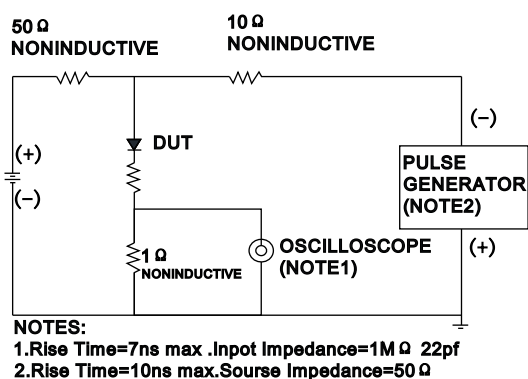
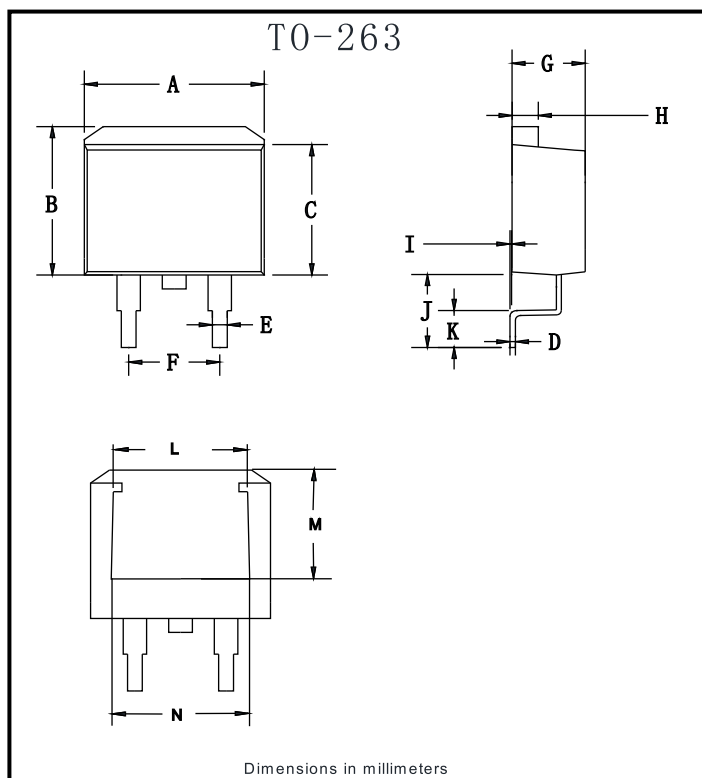


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

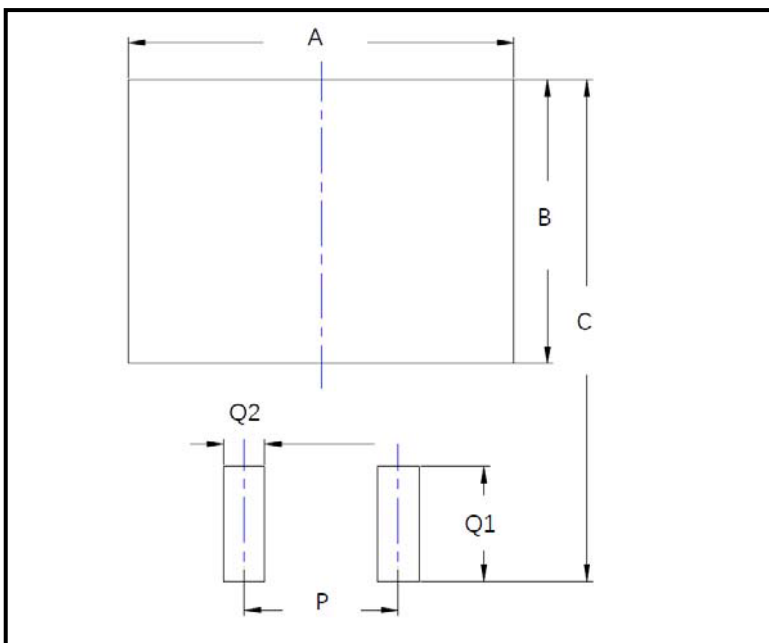


■ OUTLINE DIMENSIONS



TO-263		
Dim	Min	Max
A	9.5	11.5
B	9.7	10.5
C	8.4	9.0
D	0.28	0.64
E	0.68	0.94
F	4.55	5.6
G	4.04	5.10
H	1.14	1.4
I	0	0.2
J	4.9	6.05
K	1.79	2.79
L	7.3	7.9
M	6.2	6.8
N	7.6	8.2

■ SUGGESTED PAD LAYOUT



Dim	Millimeters
A	12.7
B	9.4
C	16.6
P	5.08
Q1	3.8
Q2	1.35